

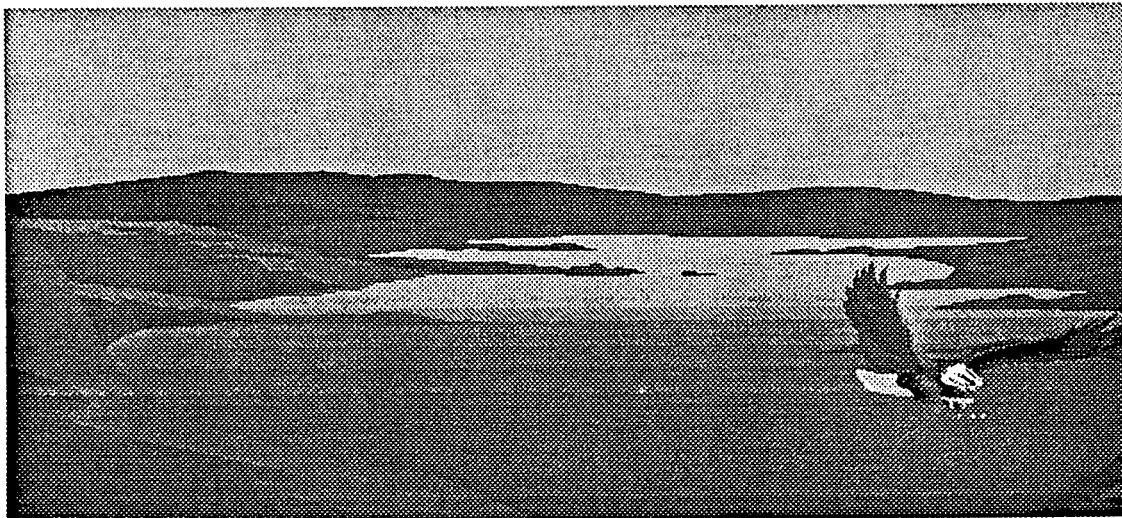
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ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For
March, 1992



April 20, 1992



EG&G ROCKY FLATS

ADMINISTRATIVE

DOCUMENT CLASSIFICATION
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A-SW-001403

**U.S. DEPARTMENT OF ENERGY
ROCKY FLATS PLANT**

**ENVIRONMENTAL RESTORATION
PROGRAM**

**MONTHLY REPORT FOR
MARCH 1992**

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1.0 INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for March 1992. This program implements the Interagency Agreement (IAG) between the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the State of Colorado to investigate, assess, and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Plant in Golden, Colorado. This agreement was signed on January 22, 1991. The work is being performed for DOE by EG&G Rocky Flats, Inc.

Section 2.1 of this report highlights significant achievements and summarizes the milestones completed during March. Section 2.2 presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit as well as other program activities are presented in Section 3.0. Operable Units will be reported on as work in them commences. Section 4.0 contains the schedules for routine environmental sampling as required by paragraph 210 of the Interagency Agreement. Section 5.0 contains a list which identifies the contractors and subcontractors performing work on the program as required by paragraph 13 of the IAG.

2.0 EXECUTIVE SUMMARY

2.1 SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR MARCH 1992

A request for a schedule extension for completion of the OU 1 Phase II Remedial Investigation (RI) report (an IAG milestone) from July 30, 1992 to January 30, 1993 was submitted by DOE/RFO to the regulatory agencies.

On the OU 1 Interim Remedial Action (IRA), calibration and systems operation testing inside the 891 building continues. Clean water testing ended during the week ending March 27, 1992, after which systems operation (SO) testing with contaminated water will begin and continue through April 3, 1992. Difficulties with equipment, power, and the weather have limited the SO tests; however, it still appears that meeting the April 6, 1992 milestone is feasible for regular operation of the treatment system. Completion of the interface between the ion exchange system and the main control panel is in process. Clean water testing has also been performed on UV/hydrogen peroxide unit.

Fifteen additional monitoring wells were completed in the OU 2 Alluvial Remedial Investigation (RI) during February, bringing the total number of monitoring well completed to eighty-three out of a planned eighty-five. Twenty-two boreholes were completed during February, bringing the total number of boreholes completed to 46. There were a total 43 boreholes planned for the OU 2 RI, the additional holes were drilled to supply additional data gaps in the boreholes geologic conditions. Linear drilling footage completed to date is 3,819 feet.

The Draft Final Work Plan for the OU 2 multi-aquifer pump tests were delivered to the regulatory agencies for review and approval during the week ending March 27, 1992. This is part of the Phase II RFI/RI Work Plan (Alluvial) fieldwork.

EPA and CDH approval of the final RFI/RI Work Plan for OU 3 was received on March 17, 1992.

Treatability efforts on OU 4 continue. Efforts to specify equipment selection and siting have commenced and will continue for the next three to four weeks. Conceptual engineering is complete for the pondsludge process. Process design criteria is under internal review. A briefing was presented to CDH on March 17, 1992 on the solidification and water management strategies. CDH has requested a technical letter on the sequence and equipment to be used.

A meeting between DOE/RFO and EG&G was held on March 11, 1992 to discuss a request by DOE/RFO to evaluate the surface water and sediment sampling in the OU 5 and OU 6 RFI/RI Work Plans. DOE/RFO would like EG&G to reevaluate the existing surface water and sediment data which have been acquired since 1989. The purpose of the study is to reduce the surface water and sediment sampling required by the RFI/RI Work Plan.

A change proposal was developed to allocate additional funds for OU 7 to allow documentation and mobilization tasks for Work Plan implementation to commence this fiscal year.

Considerable effort went into preparing a revision of the OU 9 Environmental Evaluation Work Plan (EEWP) in the form of a draft Technical Memorandum (TM1), which was delivered to DOE/RFO on March 20, 1992. The draft was informally reviewed by DOE/RFO on March 18, 1992 and was sent to the regulatory agencies on March 27, 1992, for review and comment. This revised EEWP is intended to serve as a strawman for revision of all other industrial area OU EEWPs.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

Work supporting the IAG milestone for submittal of the OU 1 RI report, July 30, 1992, may be delayed due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. Due to the excessive time involved for laboratory sample analysis and processing of sampling data, the schedule for delivery of the OU 1 II RFI/RI Report (Alluvial) milestone is in jeopardy. A request for extension of this IAG milestone is in process.

Remedial actions required under the 1985 McKay v. U.S. Settlement Agreement for the OU 3 Offsite Areas may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will probably not include plutonium soil mixing through tilling.

At the end of March, the issue of the Categorical Exclusion (CX) and Floodplain Federal Register Notice for OU 3 field work had not been resolved. The options are: 1) DOE/RFO signs the CX and allows OU 3 field work to begin by April 1, 1992 even though the floodplain notice has not been published; or 2) DOE/RFO does not allow field work to begin until all NEPA requirements are satisfied. If the second option is followed, the sampling of spring runoff surface water samples may be missed.

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RFI/RI field activities in January 1992. Although the start of field activities is not an IAG milestone, the impact from the delayed start to the IAG milestone for delivery of the OU 4 RFI/RI Report is being evaluated.

Present lab turnaround durations will also impact the IAG schedule. Currently estimated durations are 90 days for metals and water quality parameters, 105 days for VOAs and 420 days for radioactive isotope samples. All efforts to expedite turnaround times are being pursued.

Western Aggregate has submitted a request to DOE to mine the mineral resources, to which they own the rights, and are located under a portion of the western edge of the Rocky Flats Plant. The land in question is located within OU 11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. DOE legal staff is reviewing the request from Western Aggregate. A meeting between the parties was held in September. The DOE Realty Officer is negotiating a mineral rights exchange which is tentatively scheduled to be completed by June 1992.

2.3 NEAR-TERM IAG MILESTONES

<u>OU#</u>	<u>Milestone Description</u>	<u>Scheduled Completion</u>	<u>Actual Completion</u>
01	Complete IM/IRA Construction (Treatment plant)	02 Mar 92	02 Mar 92
02	Submit Draft Proposed Subsurface IM/IRA/EA	02 Mar 92	02 Mar 92
16	Submit Draft No Further Action Justification	04 Mar 92	04 Mar 92
02	Submit Draft Treatability Test Report (Phase I GAC)	01 Apr 92	
01	Complete IM/IRA Construction (French drain)	13 Apr 92	
02	Complete IM/IRA Construction (Rads Removal System)	24 Apr 92	
02	Begin Field Treatability Testing (Rads Removal System)	27 Apr 92	

3.0 PROJECT STATUS

3.1 OU 1 - 881 HILLSIDE AREA

DESCRIPTION:

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is almost two miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up OU 1 are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds in the near-surface ground water and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involves construction of an underground drainage system called a French drain that intercepts and contains contaminated ground water flowing from the OU 1 area. The contaminated water will be treated at the 891 treatment facility, designed for this purpose, and released onsite into the South Interceptor Ditch alongside Woman Creek. IRA construction is scheduled to be completed in 1992. The remedial investigation and feasibility study (RI/FS) to determine the final remedial action are continuing in parallel with the IRA.

3.1.1 OU 1 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD:

A soil sampling program was completed for additional data to support risk assessment. The sampling program was submitted to the regulatory agencies as Technical Memorandum 5.

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase III RFI/RI Work Plan	06 Feb 90
Submit Final Phase III RFI/RI Work Plan	31 Oct 90

MARCH WORK ACTIVITY STATUS:

Preparation of the OU 1 RI report continued. Analysis of data and incorporation into the report is ongoing.

PLANNED WORK FOR APRIL:

Data evaluation required to generate the RI report is scheduled to continue through June 1992.

PROBLEMS:

Work supporting the IAG milestone for submittal of the OU 1 RI report, July 30, 1992, may be delayed due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. A request for a schedule extension for completion of the draft report (an IAG milestone) from July 30, 1992 to January 30, 1993 was submitted by DOE/RFO to the regulatory agencies.

OPEN ITEMS: None

3.1.2 OU 1 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

EPA and CDH agreed to stop excavation of the french drain at station 5+00.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91

MARCH WORK ACTIVITY STATUS:

Muddy conditions and the presence of glide planes continue to slow progress in the excavation of the french drain. Work on a redesign for the failed collection well influent piping and electrical power supply is ongoing. However, the french drain pumping system continues to be operational through temporary means. Presently, 85,000 gallons of groundwater is contained within the two influent tanks and effluent tank 205.

At a meeting with EPA and CDH on March 26, 1992, a decision was made to stop the french drain at station 5+00.

Calibration and systems operation testing inside the 891 building continues. Air Pollution Emissions Notification documentation for the 891 building is being prepared. Clean water testing ended during the week ending March 27, 1992, after which systems operation (SO) testing with contaminated water will begin and continue through April 3, 1992. Difficulties with equipment, power, and the weather have limited the SO tests; however, it still appears that the April 6, 1992 milestone is feasible for regular operation of the treatment system. During a March 20, 1992 visit by representatives of the EPA and CDH, a request was made by these agencies for copies of the SO test work plan. Copies have been prepared and are being sent to the regulatory agencies.

Completion of the interface between the ion exchange system and the main control panel is in process. Clean water testing has also been performed on UV/hydrogen peroxide unit; however, difficulties with the flow meter will require some additional calibration work prior to further testing.

PLANNED WORK FOR APRIL:

Complete construction of the french drain and continue testing the systems.

Systems operation (SO) testing with contaminated water will begin and continue through April 3, 1992. Difficulties with equipment and power have effected the SO testing; however, it still appears that the April 6, 1992 milestone is feasible for regular operation of the treatment system. During a March 20, 1992 visit by representatives of the EPA and CDH, a request was made by these agencies for copies of the SO test work plan. Copies have been prepared and are being sent to the regulatory agencies.

PROBLEMS: None

OPEN ITEMS: None

3.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

DESCRIPTION:

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent, some of which may have contaminants that were not removed by the treatment system.

An Interim Measures/Interim Remedial Action (IM/IRA) provides for surface water in source areas of contamination to be collected, treated, and discharged to the surface water drainage. Operation of a field-scale treatability unit for the South Walnut Creek drainage provides treatment for volatile organic compounds with granular activated carbon (GAC) which began in May, 1991. The effectiveness of the treatment process will be evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. A radionuclide removal system is being added to the system for removal of radionuclides and metals and is scheduled to complete construction on April 24, 1992. After completion of the field-scale treatability tests, the unit is anticipated to remain in service until the final remedial action is operational. The RI and FS are continuing in parallel with the IRA.

A second IM/IRA was established in late-1991 after the Woman Creek IRA "No Action" alternative recommended by DOE/RFO was rejected by the public, EPA and CDH. This Proposed Subsurface Investigation (Woman Creek) IM/IRA proposes to employ vapor extraction treatment of organic compounds in the vadose zone as a field pilot test. This technology will be implemented at the 903 Pad, The Mound Area, and the East Trenches Area. The purpose of the project will be to determine the effectiveness of the technology for the geologic and environmental conditions.

3.2.1 OU 2 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91

MARCH WORK ACTIVITY STATUS:

Fifteen additional monitoring wells were completed during February on the Alluvial RI, bringing the total number of monitoring well completed to eighty-three out of a planned eighty-five. Twenty-two

boreholes were completed during February, bringing the total number of boreholes completed to 46. There are a total 43 boreholes planned for the OU 2 RI, the additional holes were drilled to supply additional data gaps in the boreholes geologic conditions. Linear drilling footage completed to date is 3,819 feet.

Drilling Rigs#1, #2 and #3 were operational for the month of March. Out of twenty-two possible operational days, Rig #1 was operational for over 19 days, one day was lost due to severe winter weather, one and a half days were lost due to mechanical breakdown and four hours was spent waiting for the decontamination pad. Rig #2 was operational for over eighteen days with downtime incurred due to one day of severe winter weather, one day for a delay in clearing borehole cuttings and six hours for mechanical breakdown. Drill Rig #3 was operational for over seventeen days with downtime incurred due to one day for severe winter weather, three days for being off plant site and 2 hours for mechanical breakdown.

The Draft Final Work Plan for multi-aquifer pump tests were delivered to the regulatory agencies for review and approval during the week ending March 27, 1992. This is part of the Phase II RFI/RI Work Plan (Alluvial) fieldwork. Regulatory agencies' comments are due back in the first part of April.

A meeting with the regulatory agencies was held on March 25, 1992 to resolve drum characterization concerns. OU 2 has 621 waste drums in the field.

PLANNED WORK FOR APRIL:

Fieldwork will continue through April and is scheduled to be completed May 1, 1992.

PROBLEMS:

Due to the excessive time involved for laboratory sample analysis and processing of sampling data, the schedule for delivery of the Phase II RFI/RI Report (Alluvial) milestone is in jeopardy. A request for extension of this IAG milestone is being prepared.

OPEN ITEMS: None

3.2.2 OU 2 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	13 May 91
Submit Draft Proposed Subsurface IM/IRA/EA	02 Mar 92

MARCH WORK ACTIVITY STATUS:

The Walnut Creek phase of the OU 2 granular activated carbon (GAC) IRA unit collected, treated, and discharged 1,169,815 gallons of water during March, 1992. Twenty-four-hour manned operation continues without problems. The preliminary draft treatability test report for the GAC system is scheduled to be submitted to EPA and CDH on April 1, 1992.

Fabrication of the Radionuclide Removal System (RRS) trailers is ongoing and delivery to RFP is expected on April 3, 1992. Completion of the site work occurred on March 30, 1992, and the planned date for initiating operation of the RRS is April 27, 1992.

The Draft Proposed Subsurface IM/IRA/EA Plan was delivered to EPA and CDH on its delivery date of March 2, 1992. The Draft Proposed Subsurface IM/IRA/EA and Decision Document began a 60-day public review period on March 20, 1992. A public presentation of the document is scheduled for the night of April 7, 1992 and a meeting to obtain public comments on the document is scheduled for May 7, 1992.

PLANNED WORK FOR APRIL:

The GAC treatment unit will continue operations.

The development of the draft GAC Treatability Study Report will continue.

Fabrication of the radionuclides removal system is ongoing and is scheduled for delivery to RFP April 3, 1992, with initiation of operations on April 27, 1992.

The Draft Proposed Subsurface IM/IRA/EA and Decision Document began a 60-day public review period on March 20, 1992. A public presentation of the document is scheduled for the night of April 7, 1992 and a meeting to obtain public comments on the document is scheduled for May 7, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.3 OU 3 - OFFSITE AREAS

DESCRIPTION:

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as IHSSs: Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay v. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the land owners.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Past Remedy Report	26 Oct 90
Submit Draft Historical Information/Preliminary Health Risk Assessment Report	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91
Submit Final Historical Information/Preliminary Health Risk Assessment Report	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91

MARCH WORK ACTIVITY STATUS:

EPA and CDH approval of the final RFI/RI Work Plan for OU 3 was received on March 17, 1992.

DOE/RFO has requested USGS assistance to perform reservoir sediment sampling under the RFI/RI Work Plan for OU 3.

The NEPA request for a Categorical Exclusion (CX) and Floodplain Federal Notice for OU 3 Field Work is at DOE/HQ for final approval. To meet the OU 3 IAG schedule, surface water samples must be taken during the spring runoff event that will occur during April. At the end of March, the issue of the Categorical Exclusion (CX) and Floodplain Federal Register Notice for OU 3 field work had not been resolved. The options are: 1) DOE/RFO signs the CX and allows OU 3 field work to begin by April 1, 1992 even though the floodplain notice has not been published; or 2) DOE/RFO does not allow field work to begin until all NEPA requirements are satisfied. If the second option is followed, the sampling of spring runoff surface water samples may be missed. A decision will be made soon on whether or not to proceed with the sampling on schedule. DOE/RFO submitted a letter to DOE/HQ requesting guidance on this issue.

PLANNED WORK FOR APRIL:

Work will continue to obtain access agreements from offsite land owners for field sampling activities. Coordination and planning to begin OU 3 field activities will continue.

Water and sediment sampling will commence after the NEPA Floodplain problem is solved.

PROBLEMS:

Remedial actions required under the 1985 McKay v. U.S. Settlement Agreement may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will probably not include plutonium soil mixing through tilling.

At the end of March, the issue of the Categorical Exclusion (CX) and Floodplain Federal Register Notice for OU 3 field work had not been resolved. The options are: 1) DOE/RFO signs the CX and allows OU 3 field work to begin by April 1, 1992 even though the floodplain notice has not been published; or 2) DOE/RFO does not allow field work to begin until all NEPA requirements are satisfied. If the second option is followed, the sampling of spring runoff surface water samples may be missed.

OPEN ITEMS: None

3.4 OU 4 - SOLAR EVAPORATION PONDS

DESCRIPTION:

OU 4 is made-up of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C. Beginning in the late 1950s, the ponds were used to store and evaporate low-level radioactive process water containing high concentrations of nitrates and treated acidic wastes. The sludge and sediments that resulted from the process were periodically removed and disposed of at the Nevada Test Site.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle ground water contaminated by the ponds and to prevent natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger, interceptor trench system which recycles approximately four million gallons of ground water a year back into the solar evaporation ponds.

No additional process water has been pumped into the ponds since 1983. The interceptor trench system collects and recycles ground water into the solar evaporation ponds continuously. Presently, only the 207B north solar evaporation pond receives contaminated ground water collected by the interceptor system. The ponds are RCRA interim status regulated units that are currently under closure. In order to proceed and characterize the level of contamination at the site, approximately eight million gallons of excess liquid in the ponds must be removed. The removal of this liquid and the redirection and treatment of the ground water by the interceptor trench system are the focus of the Interim Measure/Interim Remedial Action (IM/IRA) dated March 1992, which is scheduled to be operational in 1992.

The March 1992 IM/IRA Plan was developed as a regulatory agency requirement that was not included in the scope outlined in the Interagency Agreement (IAG). DOE attempted to modify an existing permit for water removal and treatment for liquids in the solar ponds and ground water collected by the interceptor trench system, but the regulatory agencies rejected permit modification and required development of an IM/IRA to document operation and use of the proposed water treatment system. The development and implementation of this IM/IRA precedes the IAG scheduled Phase I RFI/ RI fieldwork.

There is an IM/IRA scheduled in the IAG that will be completed after results are collected and analyzed from the Phase I RFI/RI fieldwork. The first draft of the IAG IM/IRA Plan is scheduled for delivery in April 1994.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91

MARCH WORK ACTIVITY STATUS:

Treatability efforts for characterization of Pond sludge continue. Results from the treatability efforts are to be used for development of pondcrete mixing approaches and stabilization. Efforts to specify equipment selection for the pondcrete process and siting have commenced and will continue for the next three to four weeks. Conceptual design and engineering is complete for the pondsludge process. Process design criteria is under internal review.

A meeting was held among EPA, CDH, DOE/RFO and EG&G on March 5, 1992 to discuss OU 4 IM/IRA Plan. EPA wanted clarification on which ARARs that will be used and inclusion of more organic compounds in the acceptance test for the 910 evaporator. Overall, changes were minor and were responded to within a week. EPA and CDH comments were incorporated into the Final OU 4 IM/IRA Decision Document and Responsiveness Summary(RS).

PLANNED WORK FOR APRIL:

Continue treatability efforts.

Continue Rocky Flats plant permitting process for fieldwork outlined in the Work Plan.

PROBLEMS:

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG start of the RFI/RI field activities scheduled for January 1992. The impact, if any, to the IAG milestone for delivery of the RFI/RI Report is being evaluated.

Present lab turnaround durations will also impact the IAG schedule. Estimated durations are 90 days for metals and water quality parameters, 105 days for VOAs and 420 days for radioactive isotope samples.

OPEN ITEMS: None

3.5 OU 5 - WOMAN CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Woman Creek drainage of ten IHSSs. These are: Original Landfill (IHSS 115); Ash Pits (IHSS 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSS 142.10 and 142.11); Surface Disturbance (IHSS 209), southeast of Building 881. Two additional surface disturbances have been identified and are located, one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan. Possible contamination in this operable unit was caused by landfill operations, stormwater run-off into holding ponds, and ash-pit operations. Constituents in OU 5 are believed to include nitrates, plutonium, uranium, metals, beryllium, solvents, pesticides, oils, paints, and cleaners. Media affected include soils, sediments, surface water, groundwater, and air resuspension.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	05 Apr 91
Submit Final Phase I RFI/RI Work Plan	30 Aug 91

MARCH WORK ACTIVITY STATUS:

A meeting between DOE/RFO and EG&G was held on March 11, 1992 to discuss a request by DOE/RFO to evaluate the surface water and sediment sampling in the OU 5 RFI/RI Work Plan. DOE/RFO would like EG&G to reevaluate the existing surface water and sediment data which have been acquired since 1989. The purpose of the study is to reduce the surface water and sediment sampling required by the RFI/RI Work Plan.

Air samplers must be operational for the OU prior to any RI intrusive activity. Drilling activities are scheduled to begin by May 15, 1992.

PLANNED WORK FOR APRIL:

Continue development of statements of work (SOWs) for the Environmental Evaluation Work Plan, Ambient Air Monitors, and the implementation of the RFI/RI Work Plan.

PROBLEMS:

Field work originally scheduled to begin in the beginning of Fall of 1991, and then post poned until Spring of 1992 due to budgeting uncertainties has been further delayed until the Summer of 1992. The delay is due to contractual difficulties.

OPEN ITEMS: None

3.6 OU 6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Walnut Creek Drainage of twenty Individual Hazardous Substance Sites (IHSSs). They are the A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165), and the Old Outfall Area (IHSS 143). One additional site, the Soil Dump Area (IHSS 156.2), was transferred from OU 14 to OU 6 in 1991. Two IHSSs, Property Utilization And Disposal Yard (IHSS 170) and Property Utilization and Disposal Container Storage Facilities (IHSS 174) have been transferred from OU 6 to OU 10. Thirteen ground water monitoring wells will be installed throughout OU 6 to monitor the alluvial aquifer. Five bedrock ground water monitoring wells will be installed in the vicinity of North Walnut Creek during the OU 6 remedial investigation. To characterize the bedrock aquifer in the vicinity of the A-series ponds up to 9 additional bedrock ground water monitoring wells may be installed.

Sediment samples will be collected from the drainage in OU 6 where existing data are insufficient to adequately characterize the sediments. Sediment sampling has been proposed along each stream segment on North and South Walnut creeks where additional characterization is needed. Based on a review of the data collected at the existing locations along the OU 6 drainage, there is sufficient information about the sediments in many parts of OU 6; therefore, the sampling locations specified in the IAG have been reduced in those areas.

The surface soil sampling has been modified for the Triangle Area (IHSS 165) and the Old Outfall Area (IHSS 143) so that the surface soil samples specified in the IAG will be obtained from the original surface of these units. This will require boring through the overlying fill material down to the original surface to collect samples.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	19 Apr 91
Submit Final Phase I RFI/RI Work Plan	16 Sep 91

MARCH WORK ACTIVITY STATUS:

A meeting between DOE/RFO and EG&G was held on March 11, 1992 to discuss a request by DOE/RFO to evaluate the surface water and sediment sampling in the OU 6 RFI/RI Work Plan. DOE/RFO would like EG&G to reevaluate the existing surface water and sediment data which have been acquired since 1989. The purpose of the study is to reduce the surface water and sediment sampling required by the IAG and the RFI/RI Work Plan.

A formal readiness review for the air quality program on OU 6 has been scheduled for March 23, 1992. Air samplers must be operational for the OU prior to any RI intrusive activity. Drilling activities are scheduled to begin by May 15, 1992.

PLANNED WORK FOR APRIL:

Continue development of statements of work (SOWs) for the Environmental Evaluation Work Plan, Ambient Air Monitors, and the implementation of the RFI/RI Work Plan.

PROBLEMS:

Field work originally scheduled to begin in the beginning of Fall of 1991, and then post poned until Spring of 1992 due to budgeting uncertainties has been further delayed until the Summer of 1992. The delay is due to contractual difficulties.

OPEN ITEMS: None

3.7 OU 7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill - Operable Unit (OU) 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. A section of the Present Landfill located in the southwest corner was used between 1986 and 1987 as a temporary storage area for hazardous waste. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of RFP's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s extensive investigations were conducted on the waste streams (types) placed into the landfill, and consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91

MARCH WORK ACTIVITY STATUS:

Work was completed on the statement of work (SOW) for the Phase I RFI/RI Work Plan implementation.

A change proposal was developed to allocate additional funds to allow documentation and mobilization tasks for Work Plan implementation to commence this fiscal year.

PLANNED WORK FOR APRIL:

Development of the statement of work (SOW) for the Phase I RFI/RI Work Plan implementation will continue in April.

PROBLEMS: None

OPEN ITEMS: None

3.8 OU 8 - 700 AREA

DESCRIPTION:

The 38 IHSSs which constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, underground pipelines, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

MARCH WORK ACTIVITY STATUS:

Preparation of the Draft OU 8 RFI/RI Work Plan continued. The Draft OU 8 RFI/RI Work Plan is scheduled to be delivered to the regulatory agencies on May 1, 1992, the IAG milestone date.

PLANNED WORK FOR APRIL:

Scoping activities with the regulatory agencies will continue through April.

PROBLEMS: None

OPEN ITEMS: None

3.9 OU 9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves characterizing a series of tanks and associated process waste lines. The Original Process Waste Lines (OPWL) consisted of a system of 57 designated pipe sections extending between 73 tanks and 24 buildings connected by 35,000 feet of buried pipeline that transferred process wastes from point of origin to onsite treatment plants. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system have been incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics and acids. Small quantities of other liquids were also introduced in the system, including pickling liquor from foundry operations, medical decontamination fluids, miscellaneous laboratory liquids from Building 123, and laundry effluent from Buildings 730 and 778. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines which are accessible, and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and borings where known or suspected releases occurred, near pipe joints and valves, at approximately 200-foot intervals along the pipelines and by installing borings around the tanks which are outdoors. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91

MARCH WORK ACTIVITY STATUS:

DOE/RFO and EG&G met on March 3, 1992, to discuss the responses to DOE/RFO, CDH, EPA, and HAZWRAP comments on the Final Phase I RFI/RI Work Plan for OU 9. Additional revisions to the Work Plan were directed by DOE/RFO.

CDH comments dated March 9, 1992 on the Final Phase I RFI/RI Work Plan for OU 9 were addressed. DOE/RFO, EPA, CDH and EG&G met the week ending March 20, 1992 in order to discuss and resolve the comments from CDH on the Work Plan. The Final Phase I RFI/RI Work Plan for OU 9 revised per DOE, EPA and CDH comments, was delivered to EPA and CDH on March 27, 1992.

Considerable effort went into preparing a revision of the OU 9 Environmental Evaluation Work Plan (EEWP) in the form of a draft Technical Memorandum (TM1), which was delivered to DOE/RFO on

March 20, 1992. The proposed revision significantly reduces the scope of the EE. The draft was informally reviewed by DOE/RFO on March 18, 1992 and was sent to the regulatory agencies on March 27, 1992, for review and comments. This revised EEWP is intended to serve as a strawman for revision of all other industrial area OU EEWPs.

PLANNED WORK FOR APRIL:

The procurement package for implementation of the Final Phase I RFI/RI Work Plan will be finalized.

PROBLEMS: None

OPEN ITEMS: None

3.10 OU 10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU 10 is made up of 18 IHSSs scattered throughout the plant which consist of various hazardous waste units. Six of the IHSSs are located in the PA, two are located in the buffer zone near the present landfill, and the remaining are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a utilization yard with waste spills. The primary components of the RFI/RI Work Plan for OU 10 will be a Field Sampling Plan (FSP), Baseline Risk Assessment Plan (BRAP), and an EE Work Plan. IRA is scheduled to begin in early 1998.

Three additional IHSSs were transferred from other operable units to OU 10 after the Draft RFI/RI Work Plan was completed in FY90. The Draft Work Plan was based on the draft IAG which was modified during final IAG negotiations. A contract modification was initiated to incorporate the three IHSSs into the Draft Work Plan and to perform general upgrades to the Plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan 27 Nov 91

MARCH WORK ACTIVITY STATUS:

Comments have been received from EPA and CDH on the OU 10 Draft Phase I RFI/RI Work Plan. After incorporation of their comments and preparation of a Final Phase I RFI/RI Work Plan, submittal to the regulatory agencies is scheduled for May 1, 1992.

A meeting was held on March 20, 1992 with DOE/RFO and EG&G to resolve issues regarding comments on the RFI/RI Work Plan. All issues have been resolved and the Work Plan is being revised.

PLANNED WORK FOR APRIL:

Continue work on incorporation of EPA and CDH comments in the Final RFI/RI Work Plan

PROBLEMS: None

OPEN ITEMS: None

3.11 OU 11 - WEST SPRAY FIELD

DESCRIPTION:

The West Spray Field is located within the Rocky Flats Plant buffer zone immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from solar evaporation ponds 207-B North and Center (contaminated ground water in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to determine the presence and levels of hazardous constituents in soil and ground water.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	02 Jan 92

MARCH WORK ACTIVITY STATUS:

The revision of the Final Phase I RFI/RI Work Plan for OU 11 was completed on March 13, 1992 for delivery to EPA and CDH on March 16, 1992.

PLANNED WORK FOR APRIL:

It is anticipated that there will be one more comment response cycle for the Work Plan. Responses to any additional comments will occur if the regulatory agencies have comments. The Statement of Work for the implementation of the OU 11 RFI/RI Work Plan is being developed.

PROBLEMS:

Western Aggregate has submitted a request to DOE to mine the mineral resources, to which they own the rights, and are located under a portion of the western edge of the Rocky Flats Plant. The land in question is located within OU 11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. DOE legal staff is reviewing the request from Western Aggregate. A meeting between the parties was held in September. The DOE Realty Officer is negotiating a mineral rights exchange which is tentatively scheduled to be completed by June 1992.

OPEN ITEMS: None

3.12 OU 12 - 400/800 AREA

DESCRIPTION:

The 400/800 Area involves assessment and remediation of the 12 IHSSs at the 400/800 Area, including: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - Northeast, South, and West of Building 460 (IHSSs 136.1, 136.2, and 136.3); Process Waste Leaks - Maas and Owen Areas (IHSSs 147.1 and 147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation, if appropriate, will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

MARCH WORK ACTIVITY STATUS:

Development of the draft RFI/RI Work Plan for OU 12 has begun. The IAG milestone date for submitting the draft Work Plan to the regulatory agencies is May 8, 1992.

PLANNED WORK FOR APRIL:

Scoping meetings with DOE/RFO, EPA, CDH and EG&G for the RFI/RI Work Plan for OU 12 are scheduled to take place in April. The draft work plan is scheduled to be submitted to DOE on April 10 for internal review on April 10, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.13 OU 13 - 100 AREA

DESCRIPTION:

Cleanup of the 100 Area involves the assessment and remediation of 15 IHSSs including: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2 and 117.3); Underground Concrete Tank (IHSS 122); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); and the Hydrogen Peroxide Spill (IHSS 191).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

MARCH WORK ACTIVITY STATUS:

Development of the draft RFI/RI Work Plan for OU 13 has begun. The IAG milestone date for submitting the draft Work Plan to the regulatory agencies is May 15, 1992.

PLANNED WORK FOR APRIL:

OU 13 Draft Phase I Work Plan development will continue in April 1992. A draft copy is scheduled to begin internal review on April 15, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.14 OU 14 - RADIOACTIVE SITES

DESCRIPTION:

Work at the "Radioactive Sites" involves the assessment and remediation of 8 IHSSs, including: Radioactive Site - 700 Area Site #1 and Site #2 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot (IHSSs 156.1); Building 444 Parking Lot (IHSS 160) and Building 664 (IHSS 161); and Radioactive Site - 700 Area Site #2 (IHSS 162); and Radioactive Sites - 800 Area which includes the Concrete Slab, Building 886 Spills, and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

MARCH WORK ACTIVITY STATUS:

Procurement of a subcontract to assist in the development of the Draft Phase I RFI/RI Work Plan for OU 14 was in process.

PLANNED WORK FOR APRIL:

OU 14 Draft Phase I Work Plan development will begin in April 1992.

PROBLEMS: None

OPEN ITEMS: None

3.15 OU 15 - INSIDE BUILDING CLOSURES

DESCRIPTION:

Work at OU 15 involves remediation of eight IHSSs including: Building 881 Drum Storage Area; Building 865 Drum Storage Area; Building 883 Drum Storage Area; Original Uranium Chip Roaster; Unit 16, Building 890 Cargo Container; Unit 26, Building 881 Drum Storage; Unit 63, Building 371 Drum Storage; Unit 55.13, Tank T-40; and Unit 32, Building 881-Cyanide Bench Scale Treatment. Tasks in this activity are for RCRA closure of several drum storage areas and a uranium chip roaster. Eight facilities will undergo RCRA closure as interim status units. Closure Plans for the facilities were submitted to CDH in 1988 and again in 1989. The major activity proposed is characterization and decontamination, if applicable, of the concrete floors at the indoor facilities. Drums and dumpsters containing solids and liquids were stored at these facilities. Types of waste included oils, coolants and solvents containing chlorinated hydrocarbons (RCRA F001 and F002 wastes), waste paints, and waste metals contaminated with solvents. Hazardous constituents include chlorinated solvents, beryllium, and uranium. At most of the facilities, there is visual evidence of soil contamination.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

MARCH WORK ACTIVITY STATUS:

Procurement of a subcontract to assist in the development of the Draft Phase I RFI/RI Work Plan for OU 15 was in process.

PLANNED WORK FOR APRIL:

Development of the OU 15 draft RFI/RI Work Plan is scheduled to begin in April. The IAG milestone submittal date for the Work Plan is June 1, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.16 OU 16 - LOW-PRIORITY SITES

DESCRIPTION:

OU 16 assessment activity consists of preparing numerous draft "No Further Action Justification Documents" for seven IHSSs, including: Solvent Spill, Antifreeze Discharge, Steam Condensate Leaks, Nickel Carbonyl Disposal, Water Treatment Plant Backwash Pond, and Scrap Metal Sites.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

ISAG MILESTONE ACCOMPLISHMENTS:

Submit draft "No Further Action Justification" 04 Mar 92

MARCH WORK ACTIVITY STATUS: None

The draft "No Further Action Justification" document was completed and delivered to the regulatory agencies on March 4, 1992, the ISAG milestone date. The document is under review by the regulatory agencies.

PLANNED WORK FOR APRIL:

Work needed to revise the "No Further Action Justification" document is scheduled to begin.

PROBLEMS: None

OPEN ITEMS: None

3.17 SITEWIDE ACTIVITIES

DESCRIPTION:

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP environmental restoration activities in general. The activities include, but are not limited to, the Health and Safety Plan, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final PPCD and Responsiveness Summary	25 Nov 91
Submit Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92

MARCH WORK ACTIVITY STATUS:

Protected Area (PA) Interim Measure (IM)/Interim Remedial Action Plan (IRAP)

Currently the PA contains all or portions of ten Operable Units (OUs) which are scheduled for Remedial Investigations (RIs). It may be advantageous to defer the RI process within the PA until a time when it is no longer impacted by security concerns. The resulting benefits would be a reduction in operating costs attributed to the ease of operating in a less restrictive working environment, and a better coordination of investigative and remedial effort resulting from the consolidation of geographically similar OUs.

A preliminary project plan was prepared to guide direction for the assembly of an IM/IRAP. The IM/IRAP would provide a plan under which contaminant sources, potential migration pathways, and potential sensitive receptors for known PA contamination are identified, and alternatives are proposed to stabilize or mitigate any immediate human health or environmental risks. The plan would assess and interpret current data with respect to potential exposure pathways and potential sensitive receptors. It would also define the Applicable or Relevant and Appropriate Requirements (ARARs) and applicable environmental regulations. The IM/IRAP will also identify and screen IM/IRA alternatives and provide documentation to aid the National Environmental Policy Act (NEPA) in determination of the environmental impacts of a proposed action.

A statement of work is currently being prepared to initiate the production of a PA/IRAP.

PLANNED SITEWIDE WORK FOR APRIL:

EPA and CDH will continue the review of the Historical Release Report through April 3, 1992.

EPA and CDH will continue the review of the Radionuclides Discharge Limits Plan and Responsiveness Summary

Continue development of the Protected Area Interim Remedial Action Plan (PA/IRAP)

PROBLEMS: None

OPEN ITEMS: None

4.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDH upon request from the Environmental Monitoring and Assessment Division, Environmental Management Department, and EG&G Rocky Flats, Inc. The schedules are lengthy; therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe fieldwork and to obtain split or duplicate samples.

SURFACE WATER AND SEDIMENTS:

Each of the Surface Water Stations (approximately 120 stations) are sampled monthly.

Each of the Sediment Stations (approximately 40 stations) are sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOAs	Major Anions
CLP TAL Metals	Radionuclides
plus Cesium	Field Parameters
Lithium	pH
Molybdenum	Temperature
Strontium	Specific Conductivity
Tin	Dissolved Oxygen (DO)
	Turbidity

SOILS:

Each of the Soil Stations (located at 1- and 2-mile radii from the plant center) are sampled annually.

Each soil sample is analyzed for plutonium and americium.

GROUND WATER:

A total of 259 of the 371 total Ground water Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels.

Each ground water sample is analyzed for CLP, TCL, VOAs, CLP, TAL, Metals, as well as the following parameters:

<u>Radiochemical Parameters</u>	<u>Inorganic Parameters</u>	<u>Field Parameters</u>
Gross Alpha Tritium	Nitrate/Nitrite	Dissolved Oxygen (DO)
Gross Beta Lithium	Total Phosphorous	Specific Conductivity
Plutonium Uranium	Ortho-Phosphate	Temperature
Americium Cesium	Ammonia	Turbidity
Strontium Tin		pH
Molybdenum		

5.0 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the Rocky Flats Plant Environmental Restoration Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

OU	PROJECT	SUBCONTRACTOR	SUB- SUBCONTRACTOR	WORK DESCRIPTION	START DATE
1	Assessment	Ebasco	Dames & Moore Stoller Corp.	OU1 RF/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	Bruner		OU1 IRA ion exchange system	Feb-91
1	Remediation	E.T. LaFore		Installation of Phase II-A treatment system equipment for OU1 IRA	Jun-91
1	Remediation	Eng Sciences		Design Phase II-B French drain for OU1 881 Hillside IRA	Sep-90
1	Remediation	Jennison		Construct Phase II-B French drain at OU1 IRA	Aug-91
1	Remediation	P.S.I.		UV bench scale testing for volatile organics	Aug-91
2	Assessment	Woodward-Clyde		OU2 RF/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Assessment	Weston		OU2 RF/RI Alluvial Work Plan	Nov-90
2	Remediation	Riedel Env. Svcs.		Fabricate/install/operate GAC/FTU system for South Walnut Creek Phase of OU2 IRA.	Apr-91
2	Remediation	Stearns Rogers		Performance Specification for chemical precipitation/ membrane/filtration system for South Walnut Creek Phase of OU2 IRA	Jun-91
2	Remediation	Weston		IRAP, EA, Risk Assessment, and Historical Assessment for Women Creek	Jun-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-91
2	Remediation	TBD		Mfg./Install chem. precep/filtration unit for South Walnut Creek phase of OU 2 IRA	Dec-91
3	Assessment	IT Corporation	CH2M Hill	OU3 RI Work Plan	Mar-91
3	Assessment	IT Corporation	CH2M Hill	Revegetate offsite lands	Jun-91
4	Assessment	IT Corporation	Applied Environ.	OU4 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Sep-91
4	Remediation	IT Corporation		Prepare OU4 IM/IRA Action Plan	Jul-90
5	Assessment	Woodward-Clyde		OU5 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	Woodward-Clyde		OU6 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90

OU	PROJECT	SUBCONTRACTOR	SUB- SUBCONTRACTOR	WORK DESCRIPTION	START DATE
7	Assessment	IT Corporation	Stoller Corp.	OU7 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	IT Corporation		OU9 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	Ebasco		OU10 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
11	Assessment	IT Corporation		OU11 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
12	Assessment	ASI		OU12 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	
13	Assessment	ASI		OU13 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	
SW	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	PCB Assess.	Ebasco	Stoller Corp.	Prepare PCB Assessment Report	Jan-92
SW	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct-90
SW	Geolog. Char.	ASI		Geologic Characterization, Data Base, and graphics	Feb-90
SW	Monitoring	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fid. Oversight	Ebasco	Stoller Corp.	ER field operations oversight	Oct-90
SW	Treatability	Ebasco		Sitewide treatability studies - Pu contaminated soils	Apr-90
SW	Treatability	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	Ebasco		Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	Ebasco	SAIC	Develop and implement quality assurance program and field operations oversight	Dec-90
PM	Support	Ebasco	Stoller Corp.	Program Management Support	Feb-90